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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,536	08/31/2001	Lee C. Moore	D/A0A45	3291

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EXAMINER
KOYAMA, KUMIKO C

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/944,536	MOORE, LEE C.
	Examiner	Art Unit
	Kumiko C. Koyama	2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 August 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-30</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-30</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Acknowledgement is made of receipt of Amendment filed on August 10, 2004.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1, 2, 4, 5, 7-13, 18, 20 and 22-30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Okamoto et al (US 4,813,010) in view of Palmer et al (US 6,002,798).

Okamoto discloses that a general document is divided into a plurality of blocks, and

headings are assigned to the respective blocks. Each block is further divided into subblocks and

subheadings are assigned to the respective subblocks (col 1, lines 12-20). Okamoto teaches a

document processing using heading rules storage for generating documents with hierarchical

logical architectures that when a document data is input at input device, the input document data

is sequentially stored in a document storage. The input document data is segmented into a

plurality of blocks by document processor. In segmentation processing, a line return code and a

space code or segmentation symbol such as "...", ";", ",", or ":" are determined as segmentation

codes. In this case, the segmentation sentence length is measured by counting characters. (col 5,

lines 14-29). Such disclosure teaches the delimiter definition limitation of the claim. Okamoto

further discloses that if the measure value falls within a predetermined value the sentence is

determined as having the possibility of being a heading sentence, which is interpreted as searching the document to find the occurrences of items corresponding to the defined sub-section delimiter. When the segmented sentence is determined as having the possible of being a heading sentences according to the measure number of characters, or delimiter, the processor further determines whether the segmented sentence is a heading candidate, and then a heading word (col 5, lines 30-40, col 6, lines 27-45). After the segmented sentence is determined as a heading word, the heading goes through a decision to be assigned with a logical hierarchy, such as C1 in this case (col 6, lines 47-60). The logical architecture containing the chapter heading is stored in logical architecture storage (col 6, lines 55-60). Okamoto also discloses that it is know in the art that document data is processed in units of pages of the printing sheets (col 1, lines 24-25).

Okamoto does not specifically disclose generating an index for the document. Okamoto as modified by Kuga fails to teach scanning a printed version of the document to generate scan data, performing one of optical character recognition functions and document recognition functions on the scan data to generate an electronic version of the document. Okamoto also fails to teach selecting an exemplary sub-section title, performing one of document recognition and optical character recognition on the selected exemplary sub-section title, and using at least one recognized property of the exemplary sub-section title as a subsection delimiter definition.

Palmer teaches a method and apparatus for creating and indexing documents. An original document is inputted by a scanner that operates to scan the original documents printed on a sheet of paper, and to convert the information of those original documents into a bit-by-bit computer readable representation of that document (col 4,m lines 60+) and stores it into RAM (col 6, lines 1-2). The structure of the document is determined by conventional block selection techniques

which utilize a rule-based knowledge system for identifying specific areas in a document and for determining the content of the image within those areas such that the document image is decomposed into a general set of objects (col 2, lines 45-51 and col 5, lines 55+). The CPU identifies the type of region, for example, whether a region is a title region, a text region, a paragraph region, a table region, etc (col 6, lines 2-6). Palmer also discloses that the CPU 11 subjects designated document regions to OCR processing in preparation for creating a retrieval index for the document. Furthermore, Palmer discloses that the CPU 11 offers the operator the option of selecting the index level, wherein the operator selects a level, such as level 1, and then the CPU 11 subjects only title regions to OCR processing. The resulting text from the title regions is provided for a retrieval index to allow the document to be retrieved when words in the title match a specified search query (col 6, lines 55+). Palmer also teaches displaying the document (col 2, lines 28-31).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Palmer to the teachings of Okamoto in order to in order to quickly locate the index occurrence position of a major sub-section of the document and customized indexing particular for a particular user or field for faster and specialized use.

3.   Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Palmer as applied to claim 1 and 9 above, and further in view of Knowles (US 6,345,764). The teachings of Okamoto as modified by Palmer have been discussed above.

Okamoto as modified by Palmer fail to teach that the delimiter searcher is operative to search for a defined delimiter comprising a symbol selected from a barcode and a data glyph.

Knowles teaches a document containing barcodes (Fig. 1A).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to integrate the teachings of Knowles to the teachings of Okamoto as

modified by Palmer because a reader may be trying to retrieve or searching for a collection of

barcode or information contained in a barcode, which simplifies the users search because

barcodes can be scanned instantaneously and directly leads to the precise information source.

4.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view

of Palmer as applied to claim 1 above, and further in view of Kuga et al (US 5,276,616). The

teachings of Okamoto as modified by Palmer have been discussed above.

Okamoto as modified by Palmer fail to teach displaying the created index, checking the

displayed index is correct and correcting the index.

Kuga further discloses an index generating unit 6 including an index entry list generator

22 connected to text storage 20 for extracting index entries from the textual data, an index entry

storage 24 connected to index entry list generator 22 for storing the index entries outputted from

the generator 22, and an index editor 26 for editing the index entries stored in index entry storage

24 based on the instructions from the input unit 2, which includes a keyboard (col 7, line 24) and

for applying the edited index entries to printer 10. Such disclosure teaches checking and

correcting the index. Index editor 26 is for alphabetically rearranging the index entries and

classifying the same into different initial letters to enable printing of the index (col 7, lines 40-

52). Kuga also discloses a text input unit, which is a flexible disk driver for applying text data

stored in an external medium to text editor 18, and the output of the text editor is connected to

display (col 7, lines 34-36). Such disclosure teaches that the text is in an electronic form. Kuga

further discloses that the input unit 2 is to enable input by an operator by generating signals such

as character data or operation codes in response to a manual operation, a text editing unit 4

connected to the input unit 2, a display unit 8 for displaying the edited text or the like, an index

generating unit 6 connected to input unit 2 and text editing unit 4 for automatically generating an

index from the text edited by text editing unit 4 and index generating unit for printing the edited

text or the index on paper 28 (col 7, lines 10-23). Kuga teaches a keyword database for storing

extracted set of keywords that are updated and added by the operator through the keyboard (col

3, lines 35-45).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to integrate the teachings of Kuga to the teachings of Okamoto as

modified by Palmer in order to ensure the accuracy of the index such that erroneous results are

not produced as a result from misinterpreted or misread document indexes.

5.   Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Okamoto in view of Palmer as applied to claim 9 above, and further in view of Schmidt et al (US

4,903,229). The teachings of Okamoto as modified by Palmer have been discussed above.

Okamoto as modified by Palmer fail to teach that the print engine comprises a

xerographic printer.

Schmidt teaches a forms generating and information retrieval system utilizing a

xerographic print engine 24 (col 2 line 34).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to modify the teachings of Schmidt to the teachings of Okamoto as

modified by Palmer because the xerographic print engine generates forms and inures the benefits of graphic reproduction.

6.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Palmer and Schmidt as applied to claim 15 above, and further in view of Herregods et al (US 6,064,397). The teachings of Okamoto as modified by Palmer and Schmidt have been discussed above.

Okamoto as modified by Palmer and Schmidt fail to teach that the print engine comprises an inkjet printer.

Herregods teaches that a printer can be a inkjet printer (col 1 line 42).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to modify the teachings of Herregods to the teachings of Okamoto as modified by Palmer and Schmidt because an inkjet printer can provide a reproduction of colored document, therefore it can provide a more precise reproduction of the document when the document includes colored features.

6.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Palmer as applied to claim 1, and further in view of Alam et al (US 6,336,124). The teachings of Okamoto as modified by Palmer have been discussed above.

Okamoto as modified by Palmer fails to teach that the automatically generated index is an automatic generated table of contents of the document, and the items corresponding to the defined sub-section delimiter are chapter titles displayed in an order in which they appear in the document.

Alam teaches that heading of input document may be located to generate a linked table of

contents page containing the headings, each table of contents heading containing a link to the

heading contained in the output document (col 2, lines 37-45). Alam also discloses that the table

contents is displayed in the display page (col 19, lines 17-25).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to integrate the teachings of Alam to the teachings of Okamoto as

modified by Palmer in order to easily show the hierarchy of the documents as well as facilitating

the selection and view of a particular page of the document, which provides faster access to the

particular part of interest in the document.

Response to Arguments

7.   Applicant's arguments with respect to claims 1-30 have been considered but are moot in

view of the new ground(s) of rejection.

The examiner found new prior art, which she believes is more relevant to the instant

application and claims. Therefore, Applicant's arguments are moot in view of new grounds of

rejection and this action is non-final.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's
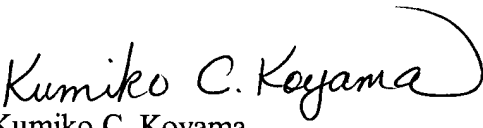
disclosure.

Lucas et al., U.S. Patent No. 6,012,074, discloses document management system with

delimiters defined at run-time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kumiko C. Koyama whose telephone number is 571-272-2394. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kumiko C. Koyama
November 1, 2004

KARL D. FRECH
PRIMARY EXAMINER